Response 44

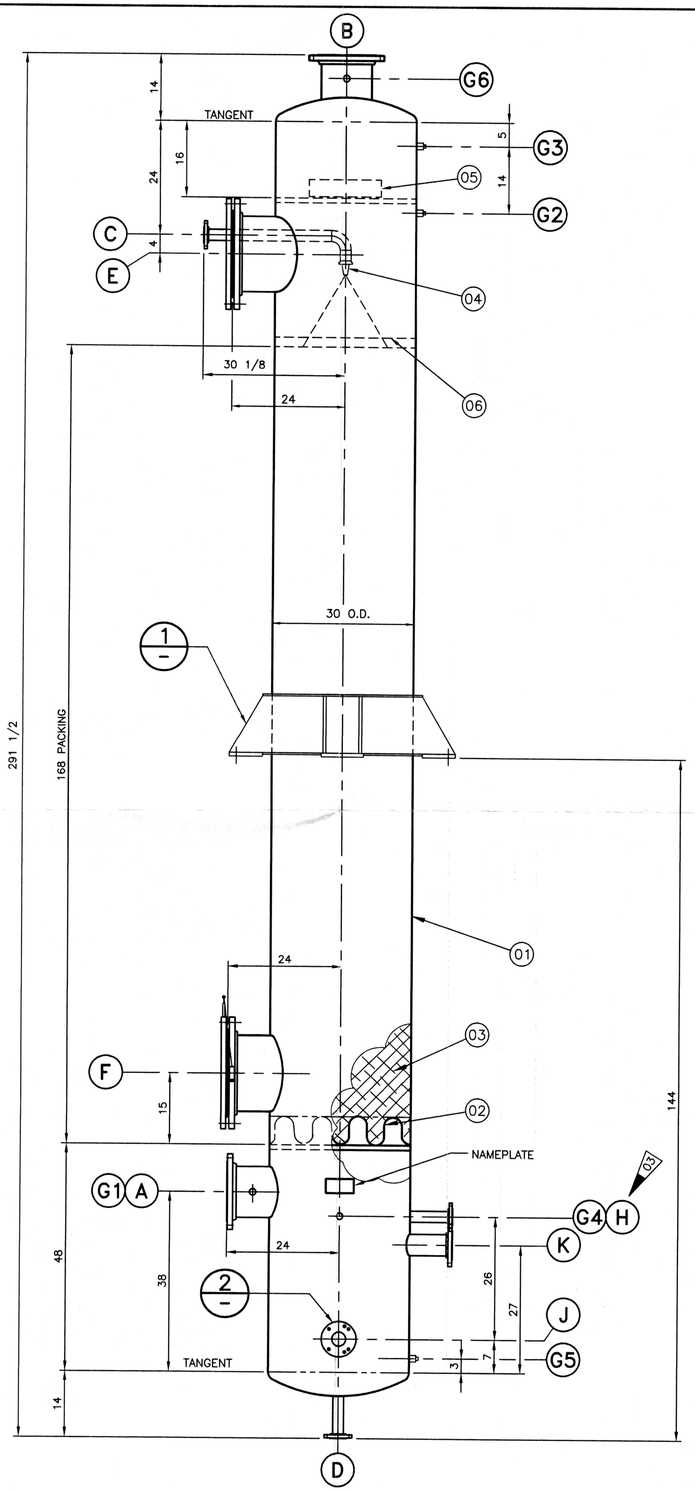
The New-Indy facility operates a TRS scrubber. The only gas component going to the TRS scrubber is the low volume high concentration component (LVHC) of the non-condensible gas system. The TRS scrubber is a packed column used to contact the LVHC gases with caustic to remove ionizable TRS compounds.

In operation, scrubbing liquid enters the column through a nozzle and is sprayed uniformly across the top of a packed bed so that it trickles evenly through the packing material from top to bottom without channeling. LVHC Gas enters the column through the inlet near the bottom and passes through the support plate into the packed bed, counter current to the flow of the scrubbing liquid, contaminants are removed. After passing through the packed bed, the cleaned gas passes through a mist eliminator section near the top of the tower. Here, any entrained liquid is removed before the clean air is discharged through the outlet. The scrubbing liquid is recirculated from the bottom of the scrubber to the top using a pump and control valve. Recirculation flow of the scrubbing liquid is measured and controlled. pH of the scrubbing liquid is also monitored and caustic is added to the recirculation to maintain a specified pH. Spent scrubbing liquid is sent back to the process for sulfur recovery.

Pursuant to New-Indy's Title V permit, it continuously monitors liquid recirculation flow and pH of the scrubbing liquid. Operational ranges for the monitored parameters have been established to indicate proper operation of the control devices. These operational ranges for the monitored parameters were derived from stack test data and/or vendor certification, which demonstrate the proper operation of the equipment in compliance. The values are as follows:

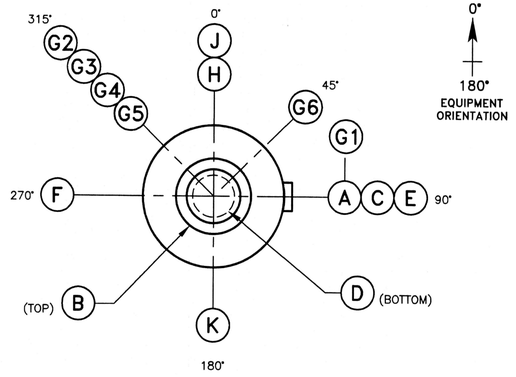
Scrubber recirculation >/= 30 gpm
Scrubber pH >/= 10

An equipment drawing and P&ID is attached.

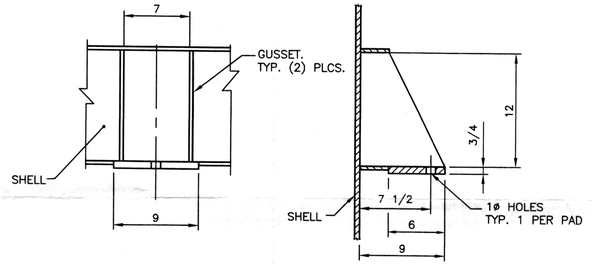


ELEVATION

NOTE: NOZZLES NOT SHOWN IN TRUE ORIENTATION.



NOZZLE ORIENTATIONS

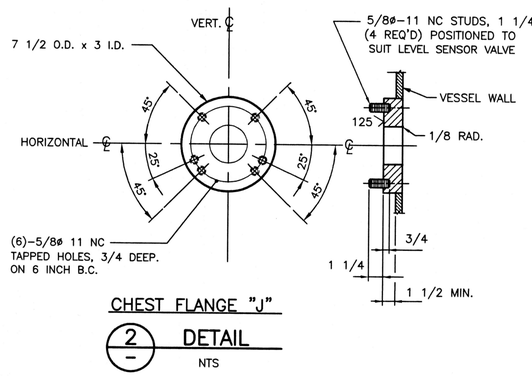


SUPPORT PAD

LOCATE AT 0°, 90°, 180°, 270°.
TYPICAL 4 PLACES

1 DETAIL

SCALE: 1 1/2" = 1'-0"



CHEST FLANGE "J"

2 DETAIL

NTS

NOZZLE SCHEDULE

NOZ	SIZE	QTY	RATING	TYPE	DESCRIPTION
A	10	1	150 LB.	LRBF	VAPOR INLET
B	10	1	150 LB.	LRBF	VAPOR OUTLET
C	2	1	150 LB.	LRBF	LIQUID INLET
D	2	1	150 LB.	LRBF	LIQUID OUTLET
E	16	1	SPECIAL	BOLTED	MANWAY (INCLUDES NOZZ. C)
F	16	1	SPECIAL	BOLTED	MANWAY W/DAVIT RT.
G	3/4	6	3000 LB.	FULL CPLG.	INSTRUMENT CONN. W/ PLUG
H	2	1	150 LB.	RFSO	LEVEL CONNECTION
J	3	1	150 LB.	SPECIAL	LEVEL CONNECTION
K	4	1	150 LB.	LRBF	OVERFLOW

LRBF = LOOSE RING BACKING FLANGE, CARBON STEEL, GALVANIZED
RFSO = RISED FACE BACKING FLANGE

DESIGN DATA

	SPECIFICATION	SHELL SIDE
CODE	STAMPING	NOT REQ'D.
CODE	CODE (LATEST EDITION)	ASME SECTION VIII, DIV. 1
TEMP	OPERATING	120° F
TEMP	DESIGN	300° F
PRESS	OPERATING	-0.5 PSIG
PRESS	DESIGN	15 PSIG TO FULL VACUUM
PRESS	TEST	23 PSIG
CONST'N	CORR. ALLOW.	NONE
CONST'N	STRESS RELIEF	A/R
CONST'N	RADIOGRAPH	A/R
CONST'N	JOINT EFFICIENCY	70% MIN.

NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. MATERIAL: SHELL AND NOZZLES = T-316L S.S.
   INTERNALS = T-316L S.S.
   SUPPORTS = T-316L S.S.
   GASKETS = GARLOCK FAWN GYLON.
3. STANDARD FLANGED NOZZLE PROJECTION TO FACE OF FLANGE IS 9" UNLESS NOTED OTHERWISE.
4. DELETED
5. ALL OPENINGS AND NOZZLES PROTECTED FOR SHIPMENT.
6. SUPPLIED BY A.H.L. ASSOC. FOR FIELD INSTALLATION.
7. ESTIMATED WEIGHTS: EMPTY = 4,650 LBS
   FLOODED = 12,100 LBS.
8. TAGGED AS FOLLOWS:
   TRS SCRUBBER
   BOWATER EQUIP. No.: M26-0194

CERTIFIED
JUN 2[illegible]

ITEM	NO. REQ'D.	DESCRIPTION	MAT'L.	REFERENCE
06	1	BED LIMITER	T-316 SS	
05	1	MIST ELIMINATOR	T-316 SS	
04	1	SPRAY NOZZLE	T-316 SS	
03	69 ft³	PACKING	T-316 SS	
02	1	PACKING SUPPORT PLATE	T-316 SS	
01	1	SCRUBBER	2.	

BOWATER INCORPORATED
CATAWBA, SOUTH CAROLINA
P.O. No. SV-150-816JP

REV.	DESCRIPTION	BY	DATE	CHK	DATE
03	REVISED NOZZLE "H" TO 2" RFSO.	MG	6/19/00	AEP	6/19/00
02	REVISED NOZZLE ORIENTATION, REMOVED HOLD.	MG	5/15/00	AEP	5/15/00
01	ADDED OVERFLOW NOZZLE 'K', CHANGED NOZZLES 'C' & 'D', REVISED LRBF MATERIAL AND NOTES 2, 4 & 8,	MG	2/18/00	AEP	2/23/00

REVISIONS

DWN. BY	A.T.
DATE:	01/17/00
CHK. BY	DMD
DATE:	1/27/00
APP. BY	AEP
DATE:	1/28/00

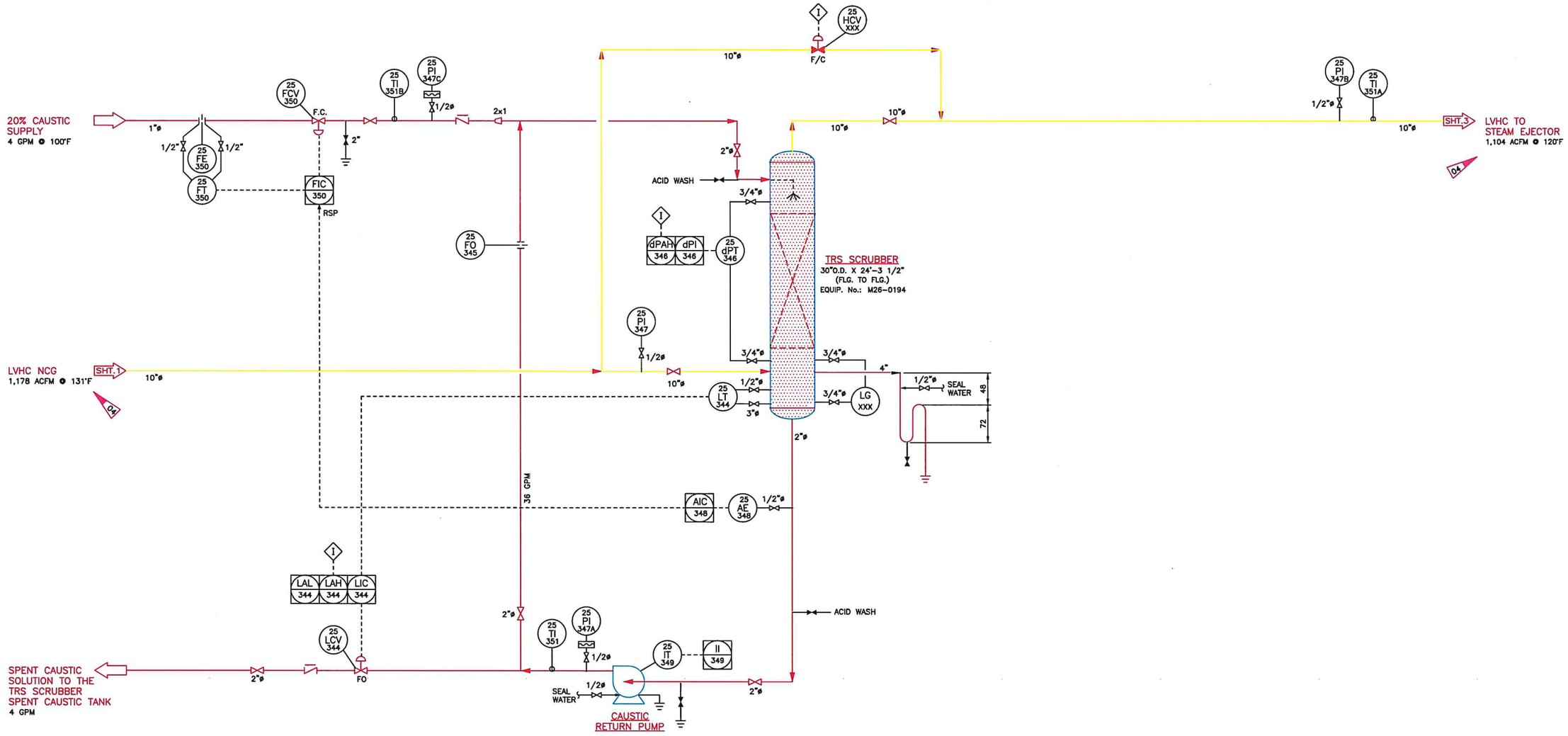
A.H. LUNDBERG ASSOCIATES, INC.
P.O. Box 597 Bellevue, Washington 98009

TRS SCRUBBER
DIMENSION DRAWING

SCALE:	EQUIP. NO.	DRAWING NO.	SHT.	REV.
3/4"=1'-0" OR NOTED	8.	AL-995326-04	1/1	03

FABRICATION DETAILS	AL-007010
DESCRIPTION	DRAWING NO.
REFERENCE	

SPEC. ODOR 1.15 | AL-995326-04 | SHT. 1/1 | (AL-995201-13)



SPEC. ODOR 0.10 | AL-995326-01 SHT. 2/3 | (AL-995326-P1)

ITEM	NO. REQ'D.	DESCRIPTION	MAT'L.	REFERENCE

BOWATER INCORPORATED
CATAWBA, SOUTH CAROLINA
P.O. No. SV-150-816JP

REV.	DESCRIPTION	BY	DATE	CHK	DATE
04	REVISED NCG FLOW AND TEMPERATURE.	EH	11/13/00		
03	BY-PASS AROUND SCRUBBER, CHANGED TO AUTO ON/OFF CONTROL VALVE.	AAM	8/10/00	AEP	8/16/00
02	ADDED BOWATER TAG NUMBERS.	MG	4/13/00	AEP	4/14/00
01	REVISED PER P&ID REVIEW MTG. AND BE&K COMMENTS	MG	2/10/00	AEP	2/11/00

REVISIONS

DWN. BY	AAM
DATE:	1/10/00
CHK. BY	DMD
DATE:	1/12/00
APP. BY	AEP
DATE:	1/12/00

A.H. LUNDBERG ASSOCIATES, INC.
P.O. Box 597 Bellevue, Washington 98009

NCG COLLECTION SYSTEM FLOW DIAGRAM

SCALE:	EQUIP. NO.	DRAWING NO.	SHT.	REV.
NONE		AL-995326-01	2/3	04

DESCRIPTION	DRAWING NO.
REFERENCE	